IN THE CLAIMS

1. (Currently amended) A method for controlling a portable range extender capable of supplying electrical energy to a vehicle, the range extender including a dynamoelectric machine mechanically coupled to an internal combustion engine by a shaft and electrically coupled to an electric power source wherein said dynamoelectric machine ~~is sufficiently sized so that it can drive~~ drives the shaft to start the internal combustion of the engine, ~~the method~~ comprising ~~the steps of~~:

applying electrical energization from a power source to the dynamoelectric machine for operation ~~thereof~~ as a motor to drive the shaft to start the engine in rotation in response to an initiation input;

sensing the rotational speed of the shaft;

sensing the temperature of the engine;

in response to a sensed rotational speed that meets a first predetermined speed threshold and a sensed engine temperature that meets a predetermined temperature threshold, supplying fuel to the engine and activating an ignition of the engine for operation ~~thereof~~ as a prime mover; and

after a period of engine prime mover operation, ~~activating~~ operating the dynamoelectric machine ~~for operation thereof~~ as a generator to provide an electrical current output.

2. (Currently amended) A method as recited in claim 1, wherein:

the power source is a direct current source and ~~the step of~~ applying electrical energization to the dynamoelectric machine comprises inverting an output voltage of the direct current source to an alternating current.

3. (Original) A method as recited in claim 2, wherein the direct current source is a battery for operation of a vehicle traction motor.

4. (Currently amended) A method as recited in claim 3, wherein ~~the step of activating~~ operating the dynamoelectric machine as a generator comprises producing an alternating current output of the dynamoelectric machine and converting the alternating current output to a direct current output;

and further comprising ~~the step of~~ applying the direct current output to charge the battery.

5. (Currently amended) A method as recited in claim 4, further comprising ~~the step of~~ applying the direct current output to drive the traction motor.

6. (Original) A method as recited in claim 1, wherein said period of engine prime mover operation is a predetermined time interval.

7. (Currently amended) A method as recited in claim 1, wherein operation of the dynamoelectric machine as a generator ~~operation is activated~~ is initiated when the sensed shaft rotational speed meets a second predetermined speed threshold higher than the first predetermined threshold.

8. (Currently amended) A method as recited in claim 1, further comprising ~~the steps of~~:

terminating the supply of fuel to the engine when the engine is to be stopped;

maintaining ignition activation of the engine after the fuel supply has been terminated; and

deactivating engine ignition when fuel has been eliminated from the engine~~, thereby to avoid engine backfire~~.

9. (Currently amended) A method as recited in claim 8, wherein the deactivating ~~step~~ is delayed for a preset time period.

10. (Currently amended) A method as recited in claim 8, wherein the range extender is self contained within an enclosure that is independent of a vehicle and the ~~steps of~~ applying of electrical energization to the dynamoelectric machine, supplying fuel to the engine, activating ignition of the engine, activating the dynamoelectric machine, terminating the supply of fuel ~~and~~, and deactivating of the engine ignition~~, are~~ are controlled by a controller contained within the enclosure.

11. (Currently amended) A portable range extender capable of supplying electrical energy to a vehicle having a vehicle controller, the portable range extender comprising:

an internal combustion engine;

a dynamoelectric machine mechanically coupled to the internal combustion engine by a shaft and electrically coupled to a direct current source, the ~~wherein said~~ dynamoelectric machine ~~is sufficiently sized so that it can drive~~ driving the shaft to start the internal combustion of the engine;

an autonomous range extender controller having at least one user input; and

a portable enclosure in which the internal combustion engine, dynamoelectric machine and controller are housed; wherein

in response to a user input to the controller, the controller provides ~~a sequence of range extender~~ operations ~~is initiated~~ including a first phase in which electrical energization is applied from the direct current source to the dynamoelectric machine for operation ~~thereof~~ as a motor to drive the shaft to start the engine in rotation, a second phase in which the engine is activated for operation as a prime mover, and a third phase in which the dynamoelectric machine is activated ~~in generator operation~~ for operation as a generator for providing electrical current to the vehicle.

12. (Original) A portable range extender as recited in claim 11, wherein the internal combustion engine comprises an ignition circuit and a fuel supply circuit, each of these circuits coupled to a respective output of the controller.

13. (Original) A portable range extender as recited in claim 12, further comprising a speed sensor indicative of shaft speed and an engine temperature sensor, each of these sensors coupled to a respective speed input and temperature input of the controller.

14. (Currently amended) A portable range extender as recited in claim 13, wherein the controller ~~is configured to~~ provides output signals to the ignition circuit and fuel supply circuit for prime mover ~~activation in response to~~ activation, the output signals being a function of input signals at the speed and temperature inputs ~~attaining respective~~ and threshold values.

15. (Currently amended) A portable range extender as recited in claim 12, the controller ~~is responsive to~~ receiving a user termination input ~~to apply~~ and providing an output signal to the fuel supply circuit to shut off the supply of fuel to the engine and, after a preset time delay, ~~to output~~ providing a signal to the ignition circuit to terminate engine ignition~~, thereby to avoid engine backfire~~.

16. (Original) A portable range extender as recited in claim 11, further comprising an inverter/converter circuit connected to electrical terminals of the dynamoelectric machine and to the controller; and wherein the inverter/converter circuit ~~is responsive to the controller to convert~~ converts the direct current energization applied in the first phase to the dynamoelectric machine to an alternating current for ~~motoring~~ operation as a motor, and ~~to invert~~ inverts an alternating current output of the dynamoelectric machine in the third phase for operation as a generator ~~operation~~.

17. (New) The method of claim 1, the dynamoelectric machine being a three phase AC electric machine.

18. (New) The method of claim 1, the portable range extender being contained in an enclosure that is independent of the vehicle.

19. (New) The method of claim 1, the portable range extender being disposed in the vehicle.

20. (New) The method of claim 19, the portable range extender being movable readily from the vehicle.

21. (New) The method of claim 20, the dynamoelectric machine being a three phase AC electric machine.

22. (New) The method of claim 19, the portable range extender being movable readily from the vehicle to another vehicle.

23. (New) The method of claim 4, the converting of the alternating current output to a direct current output including an inverter/converter module.

24. (New) The method of claim 23, the inverter/converter module inverting a direct current of the direct current source to an alternating current.

25. (New) The method of claim 23, the inverter/converter module converting an alternating current of the alternating current output to a direct current.

26. (New) The method of claim 23, further comprising applying a direct current of the direct current output to drive the traction motor.

27. (New) The method of claim 26, the dynamoelectric machine being a three phase AC electric machine.

28. (New) The method of claim 8, the dynamoelectric machine being a three phase AC electric machine.

29. (New) The range extender of claim 11, the dynamoelectric machine being a three phase AC electric machine.

30. (New) The range extender of claim 11, the portable range extender being contained in an enclosure that is independent of the vehicle.

31. (New) The range extender of claim 11, the portable range extender being disposed in the vehicle.

32. (New) The range extender of claim 31, the portable range extender being movable readily from the vehicle.

33. (New) The range extender of claim 32, the dynamoelectric machine being a three phase AC electric machine.

34. (New) The range extender of claim 31, the portable range extender being movable readily from the vehicle to another vehicle.

35. (New) The range extender of claim 11, further comprising an inverter/converter module.

36. (New) The range extender of claim 35, the inverter/converter module connected to the direct current source and providing an alternating current.

37. (New) The range extender of claim 35, the inverter/converter module connected to an alternating current output of the dynamoelectric machine and providing a direct current output.

38. (New) The range extender of claim 35, the direct current output connected to a traction motor to provide a direct current to drive the traction motor.

39. (New) The range extender of claim 38, the dynamoelectric machine being a three phase AC electric machine.

40. (New) The range extender of claim 12, the dynamoelectric machine being a three phase AC electric machine.

41. (New) A vehicle, comprising:

a first section having an electric motor electrically connected to a battery and controlled by a vehicle controller; and

a second section having a dynamoelectric machine mechanically coupled to an internal combustion engine by a shaft and electrically coupled to a direct current source, the dynamoelectric machine driving the shaft to start the internal combustion of the engine, the second section also having an autonomous controller having at least one user input, the second section housed in a portable enclosure,

wherein, in response to a user input to the autonomous controller, the autonomous controller initiates a first operational phase in which electrical energization is applied from the direct current source to the dynamoelectric machine for operation as a motor to drive the shaft to start the internal combustion engine in rotation, a second operational phase in which the internal combustion engine is activated for operation as a prime mover, and a third operational phase in

which the dynamoelectric machine is operated as a generator to provide an electrical current to at least the first section.

42. (New) The vehicle of claim 41, wherein the internal combustion engine comprises an ignition circuit and a fuel supply circuit, each of these circuits coupled to a respective output of the autonomous controller.

43. (New) The vehicle of claim 42, further comprising a speed sensor indicative of shaft speed and an engine temperature sensor, each of these sensors coupled to a respective speed input and temperature input of the autonomous controller.

44. (New) The vehicle of claim 43, wherein the autonomous controller provides output signals to the ignition circuit and fuel supply circuit for prime mover activation, the output signals being a function of input signals at the speed and temperature inputs and threshold values.

45. (New) The vehicle of claim 42, the autonomous controller receiving a user termination input and providing an output signal to the fuel supply circuit to shut off the supply of fuel to the engine and, after a preset time delay, providing a signal to the ignition circuit to terminate engine ignition.

46. (New) The vehicle of claim 41, further comprising an inverter/converter circuit connected to electrical terminals of the dynamoelectric machine and to the autonomous controller; and wherein the inverter/converter circuit converts the direct current energization applied in the first operational phase to the dynamoelectric machine to an alternating current for operation as a motor, and inverts an alternating current output of the dynamoelectric machine in the third operational phase for operation as a generator.

47. (New) The vehicle of claim 41, the dynamoelectric machine being a three phase AC electric machine.

48. (New) The vehicle of claim 41, the second section being contained in an enclosure that is detachable from the vehicle.

49. (New) The vehicle of claim 41, the second section being detachably disposed in the vehicle.

50. (New) The vehicle of claim 49, the second section being movable readily from the vehicle.

51. (New) The vehicle of claim 50, the dynamoelectric machine being a three phase AC electric machine.

52. (New) The vehicle of claim 49, the second section being movable readily from the vehicle to another vehicle.

53. (New) The vehicle of claim 41, further comprising an inverter/converter module.

54. (New) The vehicle of claim 53, the inverter/converter module connected to the direct current source and providing an alternating current.

55. (New) The vehicle of claim 53, the inverter/converter module connected to an alternating current output of the dynamoelectric machine and providing a direct current output.

56. (New) The vehicle of claim 53, the direct current output connected to a traction motor to provide a direct current to the electric motor of the first section.

57. (New) The vehicle of claim 56, the dynamoelectric machine being a three phase AC electric machine.

58. (New) The vehicle of claim 42, the dynamoelectric machine being a three phase AC electric machine.